

SPACE

REVIEW



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Editorial address -
2 Station Road,
Frimley, Nr. Aldershot
Hants, England.

Editor: Miss S.R.Stebbing FRAS - address as above.
Assoc. Eds. J.G.Roberts, C.M.Pither FILS.,
P.Hedervari, FRAS (Hungary)
Gene Duplantier (Canada)

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EDITORIAL

Once again, we are able to publish another issue in Volume 2 of 'Space Review'. The delay is beyond control of the editorial staff. The trouble is mainly financial as we are no longer duplicating our magazine, but are endeavouring to keep up to the high standard of offset printing. However, all you subscribers need not worry. You will still receive the number of issues paid for but these will be sent to you at irregular intervals. Due to the present difficulties, it will be impossible to keep to a regular schedule.

In the last issue we promised a philosophical section for future editions. However, it has been decided to include this in our 'Questions and Answer' column. The questions sent in are very wide and varied and cover many aspects of philosophical thought as well as astronomical phenomena.

Some people might be intrigued with the title of the new book by John Quanjer which is mentioned in our Panorama feature, According to the author, it is a book meant to open the people's eyes to the realities of life and make them think a bit more on the depth of life. The editor has only read the book in manuscript form and can certainly class it as covering a wide range of philosophical thought. Johan has taken on the job of publishing his book privately, so we can only wish him the best of luck in this valiant project.

Despite lack of apparant publicity in newspapers, events of astronomical significance are still continuing to take place 'up there'. A number of disturbances are known to be taking place in the atmosphere of Jupiter during the past months, but is less extensive at this time. Many more comets have made their appearance in recent years. Planetary observers are now keeping their eyes open for any further astro-anomalies.

One theory of interest concerns the weather. Dr. Irving P Krick, formerly of the Meteorology Dept. of California Institute of Technology states that our abnormally cold weather is due to the output of energy from the sun which is a variable star. During high energy periods, the heat is concentrated over the sub-arctic regions. Paradoxically, cold air is distributed all over the northern hemisphere. We are now in a period of minimum solar output so our cold weather should have returned to normal. However,

as this is not the case, this means that something to the equivalent of intensified solar energy is present in our atmosphere. It is now believed that a man-made radiation belt formed by H-bomb explosions could have the same effect as an increase in solar radiation. This unprecedented and unexpected heat force is sending jet streams of cold air heading southwards with such force as to carry snow to latitudes that have seldom, if ever, experienced it. (Ref: This Week Magazine 10.3.63.) A distortion of the Earth's magnetic field can also be changed by quantities of charged particles, caused by nuclear explosions entering the atmosphere. This can also trigger off earthquakes and magnetic anomalies in diverse places. The reversal of the Sun's polarity is also an important factor which should not be overlooked.

Things look dangerous as far as Earth is concerned, nevertheless, weather conditions look no less promising on Jupiter, Mars or elsewhere in our solar system.

PROJECT SYNCOM

by J.G. ROBERTS

Science-fiction writer Arthur C. Clarke's 1945 prophecy that three spacecraft orbiting the Earth 22,000 miles above the surface would provide almost complete world-wide communications coverage will be a step nearer reality next year when the first of the Syncom series of communications satellites is launched.

Syncom (from SYNchronous COMmunications) is an active, narrow-band repeated communications satellite which is designed as a follow-on spacecraft to the National Aeronautics and Space Administration's Relay satellite to be launched this year. (An active communications satellite is one which re-transmits the radio or TV signal it receives to the ground receiver, for example Telstar, and a passive satellite is one which merely reflects the signal back to Earth, for example, Echo, or in fact, the Moon). Project Syncom, announced in August 1961, is managed by the Goddard Space Flight Center and the satellites are being developed by the Hughes Aircraft Corporation.

A synchronous satellite is one which orbits the Earth once every 24 hours, thus appearing as a fixed point in the sky. In actual fact, however, the satellite would appear to move slightly about its 'fixed point' and, as Syncom will be launched into an orbit inclined 33° to the Earth's equator, the satellite will describe an elongated figure

eight in one portion of the sky. The interesting and important thing to remember regarding synchronous satellites is that as they keep in one part of the sky both day and night, it is necessary to have elaborate movable aerals. Signals can be received from the satellite by pointing one's aerial to the part of the sky in which Syncom appears. Your television aerial of tomorrow will have a movable arm which can be directed at a certain point in the sky to enable you to receive live television pictures from the other side of the world.

The launch vehicle for Syncom will be the highly-reliable Thor-Delta which consists of a Thor first stage generating 150,000 lbs. thrust, an Aerojet General 7,500 lbs thrust second stage and a solid fuel Altair third stage. In addition, the satellite itself will contain a small solid rocket as part of its payload to give it the final boost (or the 'kick in the apogee' as the engineers call it) into its near circular 22,300 mile-high orbit.

The satellite is cylindrical being 25 inches high and 28 inches in diameter and will weigh about 50 lbs. The exterior of the cylinder will be covered with an array of 3960 solar cells to supply 20 watts of electrical power at 27.5 volts and to charge with nickel-cadmium batteries which power Syncom's instrumentation during its passages through the shadow of the Earth.

The communications antenna which receives signals on a frequency of 7500 mc/s is a slotted-array type extending from the top of the satellite through the casing containing the vernier rockets. The 7500 mc/s signal on reaching the satellite, will be amplified by a lightweight travelling-wave tube and retransmitted to the ground stations on 1850 mc/s. This technique was successfully demonstrated by the Telstar 1 satellite last July when TV and radio signals received at 6390 mc/s were retransmitted to ground on 4170 mc/s. Telemetry from Syncom will be transmitted on 136 mc/s and will send data on the status of the satellite, the solar cell, communication and jet reaction systems' functions and the internal temperature of the satellite.

To enable Syncom to orient itself and maintain its attitude once in orbit, two nitrogen gas jets will be employed. One is located at the end of the spacecraft and delivers a thrust parallel to the spin axis of the satellite and will be used to ensure correct orientation of the satellite in orbit, while the other is located on the side of the cylinder and thrusts at right angles to the spin axis. The

solar sensors on the sides of the spacecraft provide telemetry information which enable any necessary adjustments to the attitude and orientation of the spacecraft to be made from the ground utilizing the gas jets. NASA scientists believe that this is a noteworthy feature of Syncom as most of the previous light-weight satellites have used on-board attitude control needing heavy and complete equipment. Orbital stabilization about an axis perpendicular to the plane of the orbit and with the cylindrical part of the satellite facing the Earth.

One of the snags which will be caused by the satellite's great height will be what is known as 'loop delay', the fraction of time taken for a message to travel from Earth to the satellite and back again. NASA officials do not believe, however that this will spoil the performance of the satellite.

Looking further into the future, after the three scheduled launchings of Syncom in 1963-64 with the Delta vehicle, an advanced version of Syncom will be tested weighing up to 500 lbs using four television channels and will be launched by the Atlas Agena D in 1964-65

THE TITICACA CALENDER AND OTHER MYSTERIES

Report from May Morlet.

An article was published in the Belgian magazine 'Auto Touring' of which the first part speaks of the 'Gates of the Sun'. Then under the title 'Tourists of Another World' find the following : "In addition to the strange Titicaca Calender of Venusian days, we find other phenomena which are up to now unexplained and on which we have to conduct our own inquiry with all the modern scientific guarantees.

"At the Bagdad Museum for instance, you can find an electric accumulator which was discovered over six feet underground in 1960 while digging for a foundation of a building. This electric engine was 4,500 years old and still works. Yet no scholar will admit that oriental civilisations of 4,500 years ago could conceive and construct this means of producing energy.

"The Russian archaeologist, Alexander Kazantsev is going to Salzburg with the intention of analysing parallel pipes of polished steel embedded in the deepest veins of an Austrian coal mine and

dating 30,000 years before our era. While in Austria, he plans also to examine curious steel nails found imbedded in a limestone bed 80 million years old.

"At the Athens Museum (Greece) is another machine that held the attention of the Soviet scientist. It is a device removed from the bottom of the sea by Greek fishermen and intrigues the astronomers by its perfection. It shows the months, hours, risings and settings of the sun and brilliant stars during the year.

"A second dial on the clock like mechanism shows the phases of the Moon, while another needle follows the movements of Mercury, Mars, Venus and Jupiter. This device is wound by a small key but the date of manufacture is set at 3,500 years B.C.

After looking at the Bagdad accumulator, the clock of Athens and the steel pieces of Austria, one great question remains to be asked - FROM WHERE COMES THESE IRREFUTABLE TESTIMONIES OF AN INFINITELY MORE ADVANCED CIVILISATION IN TECHNOLOGY THAN THAT WHICH POSSESSES DEEP KNOWLEDGE TODAY? (Other reference source: Cosmic Science Newsletter 1231 East Belmont Ave. Anaheim, California USA Vol. 2 No.1)

CORRESPONDENCE

300 Foleshill Road, Coventry

Dear Miss Stebbing,

Thank you for the latest issue of 'Space Review', which was very good. May I comment on the subject of Russia's lost cosmonauts, mentioned in it? Firstly, I am very glad that you have shown completely that the so-called moon flight in 1961 never existed. The source of that report was just unreliable, but NICAP evidently thought it important. It seems absurd anyway that the Soviets would ever attempt a lunar flight so soon after Gagarin's flight (on April 12, 1961).

However, I wish to present some information for you to consider. According to the latest edition of the GUINNESS BOOK OF RECORDS, November 1962 P.63 Russia did have a number of manned orbital failures. I quote as follows -

"Persistent reports, even from Communist sources before and after Gagarin's feat, allege that Lt. Col. Vladimir Ilyushin had made one voluntary and two further involuntary orbits of the earth on April 9th 1961, since it is inconceivable that even the Soviets would attempt to launch men into space before they had succeeded with animals.

Also, last September, after the latest Vostok flights, NASA administrator, Dr. James E. Webb officially gave out information to the effect that there were six known Soviet satellite and space probe failures up to then. These included two failures at Venus shots and one Mars shot. The dates and details were given for each. This information, obtained through U.S. intelligences, seems completely reliable, although of course, Russia has not confirmed it. The important thing is that these six known Soviet failures make no mention whatever of any manned flight failures.

We know the U.S. has had no man-in-space fatalities. From this it seems a safe bet to assume Russia has had none either.

Every success to your magazine,

Yours sincerely,

C.D.Allan.

170 Alfreton Rd. Little Eaton, Derby

Dear Susanne,

I am interested in Dirigibles: will they come back? A pointed article in 'New Scientist' dated 20.6.63 - A Straw in the Wind - suggests that they will; less many of the snags which have bedevilled this form of air transport across decades. The Goodyear Zeppelin Corp. who have almost a monopoly of airship technology have successfully operated a series of non-rigids over the years (contemporary Mayflower III shewn in issue of N.S. together with thought provoking article by Lord Ventry.

With today's technology, it seems possible to design an effective rigid airship, unique in performance in terms of comfort, convenience, ease of turn around at terminals, capable of seating 300 passengers at speeds approaching 100-120 m.p.h. taking some 50 hours to cross the Atlantic. Helium gas would fill the main envelope obviating the fire hazard; accommodation built in envelope - with main engines also inboard. It is suggested that a gas turbine driving pusher type airscrews mounted axially might be used, but there seems to be some vagueness as to the precise technical layout.

On balance, there is a strong case for the return of the dirigible; a self-supporting entity, with its useful life and bulk transport possibilities. The writer would be interested to hear from other LTA enthusiasts - especially anyone U.S., with unusual photographs, etc. of U.S.N. airships - for a research file.

Yours sincerely,

Geoff Cooper

P.S. Some non-rigids are on booster recovery service with GMR at Cape Canaveral.

Bibliography: Ships in the Sky-John Roland; The Millioneth Chance James Leasor; A History of the Airship-Basil Clarke.

136 Trowell Grove, Long Eaton, Notts

Dear Miss Stebbing,

You sound very pessimistic over Mariner 2! Actually I feel we have much more to learn when the data is all processed and some of the complex stuff interpreted. Taking all in all, I regard it as quite a success, but one obviously must not draw too many positive conclusions. A repeat of the experiment would help here but personally I am not too happy about astronomers taking certain things for granted. For instance, if observations do not fit their particular theory, they tend to tamper with the observations. Let us not forget how ridiculous some of the old ideas seem in the light of present knowledge.

All best wishes, Yours sincerely,

Alan W. Heath FRAS

c/o Space Review, Frimley.

Dear Susanne,

Thank you for your letter and some more Mariner II reports. Those conclusions were only drawn by some people who threw a rather 'simple' device into the air, that was miles off the target, and as far as I am concerned, relayed incorrect information. In time, those very few people may come to different conclusions. It doesn't worry me and there is no reason for the UFO researchers to feel disillusioned.

Anyway the problems we are confronted with are the earthly ones. They should have our full attention, the rest will come in time.

My very best wishes, Yours sincerely,

Johan H. Quanjer.

NEW BOOKS

"Survey of the Moon" by Patrick Moore, Eyre & Spottiswoode, 1963
Price 25s.

Patrick Moore's Guide to the Moon, first published in 1963 and several times re-issued and rewritten, has now undergone a complete springcleaning and appears as Survey of the Moon. Much of the additional length comes from an expansion of the

description of the lunar surface over that of the older Guide. One third of the book is now taken up by a sort of junior Wilkins & Moore's The Moon, which describes carefully all the major features of the lunar surface and provides sectional maps.

The text has been brought up to date in as much as the results; from the lunar probes are lengthily discussed - especially the Lunik III photographs of the reverse side of the Moon. Other topics like the Alphonsus outbreak are also treated, but there is a lack of discussion of recent developments in selenology, which should get a certain amount of prominence in a book of this kind so as to whet the appetite of the younger generation.

The book is very well illustrated with photographs of general regions of the Moon and detailed artistic drawings of individual areas. The photographs were obtained from the Kwasan Observatory in Japan and are excellent for the telescope used, but some ~~im~~provements could have been made by using Mount Wilson photographs which are more detailed and enlarge rather more clearly, though of course not all areas have been covered with the 100 inch photographs.

Without a doubt, the general presentation of Survey of the Moon is splendid. An enormous amount of information is condensed into a comparatively small book without loss of lucidity. The style is what one expects of Patrick Moore's books, easy flowing and to the point. There are a number of humorous anecdotes and footnotes which help to relieve the weighty facts presented and make the book easily understandable to the layman.

Brian Warner BSc, FRAS Director of the Lunar Section of the BAA.
"The Exploration of Outer Space" by Sir Bernard Lovell, Oxford University Press, 1962 Price 16/- net.

This book was first delivered in lecture form at the University of Wales, in October, 1961. The first four chapters deal specifically with scientific techniques in investigating the structure, origin and nature of the universe by use of the radio telescope. The style in which it is written should appeal strongly to the layman. The philosophical significance is somewhat important in proclaiming what is scientifically known about the physical Universe as perceived by our five senses.

The last chapter, entitled 'Some reflections on Ethics and the Cosmos' really concerns the grave dangers facing our civilisation

with emphasis on the misuse of scientific methods in current space projects. The author stresses the possibility that advance forms of life may exist on other planets within our solar system and that vehicles launched from earth could carry dangerous organisms which might contaminate extraterrestrial space and other worlds. Professor Lovell mentions a unique standard of communication by which extraterrestrial communities could contact Earth. The emission generated on a wavelength of 21 cm in the neutral hydrogen gas which pervades all the galaxies of the cosmos.

The Appendix includes a letter from American scientist, G. Cocconi of CERN - European Organisation for Nuclear Research suggesting that Jodrell Bank be used as a receiving station in search for artificial signals from inhabitable planets of nearby stars. Because of other more important projects, Professor Lovell declined to use the radio telescope on a scientific programme with only a limited hope of success.

Susanne R. Stebbing FRAS

"Astronomy and Spaceflight" by G.A. Chisnall & Gilbert Fielder
George G. Harrap & Co. Ltd., 1962 Price 25/- nett

The title of this book does not do it justice. One gets the impression that it is just another book on astronomy and while this is so to some extent, I hasten to say that it is one of a very high standard and up to date.

The casual reader of this subject may find it rather hard going but anyone with a knowledge of physics and mathematics to A level would follow it quite well. The more difficult parts are, however, set in a small print and can be omitted if necessary without losing the sequence of ideas.

Contained within the 230 pages of this well written book is a wealth of information which is divided into three main parts.

1 GRAVITATION - is a review of the trigonometrical methods of surveying the universe and the determinations of mass of the sun, moon and planets, including the earth.

2 ROCKETS - covers rockets and artificial satellites with details of their orbits, and some of this may well become 'out of date' very shortly. Some of the first experiments in this field are discussed, such as the Sputniks, Discoverer satellites and Luniks and this is always of interest even if only from the historical point of view.

3 RADIATION - covers instruments and methods of observation, and while these are of course subject to changes and improvement, drastic changes are not likely as yet. Good basic information is given on the properties of light, interferometry and the temperatures of the Sun and other stars.

The authors deal mainly with the work of the professional, but the amateur is not forgotten. Indeed the amateur will be encouraged when he reads of the value his contributions make, and that his efforts are far more of value than just providing him with some hours of amusement. The latter part of chapter 12 which deals with Astronomical photography, is devoted entirely to the work of the amateur, and suggests much useful work which he can do.

Line drawings are very good, but the photographs do include some of the 'classics' with which we are all familiar. There are, however, some 'new' ones including a photograph of the American Balloon satellite Echo, and the Russian photograph of the other side of the Moon.

A favourable review frequently states that the book deserves a place in any astronomical library - this book certainly does, and is very well worth the 25/- asked for it.

Alan W. Heath FRAS Secretary, Lunar Section, British Astronomical Association. Assistant Director, Jupiter Section BAA.

William Herschel - by Angus Armitage. Thomas Nelson & Sons Ltd., 1962 Price 15/- net.

This book gives an outline of the life and work of Sir William Herschel.

The first chapter establishes the historical context of Herschel's work and gives an outline of some of the scientific problems awaiting solution during his time, while the final pages assess how the scientific contributions made by Herschel, fit within the framework of modern astronomy.

The book is well written and has an easy flowing style which; should appeal to the ordinary laymen. A number of excellent photographs are included - many of which are quite original and relate to the subject concerned.

It is recommended to include this book in the libraries of most scientific societies; it is excellent as a source of reference. Susanne R. Stebbing FRAS.

SPACE LOG - 1963

by Brian S. Dean

January 4th, 1963 according to a report by the North American Air Defence Command, the Soviet Union launched an unannounced satellite which broke into three pieces in orbit, the largest section falling from orbit in one day and the other two after a week.

January 7th 1963 the United States Air Force (USAF) launched a secret satellite aboard a Thor-Agena booster from Vandenberg.

January 16th, the USAF launched another secret satellite aboard a Thor-Agena, also from Vandenberg

February 1st secret space probe launched by Blue Scout from Pt. Arguello.

February 11th an Argo D8 Journeyman sounding rocket launched by the American National Aeronautics and Space Administration (NASA) from Pt. Arguello to a height of 990 miles to investigate natural particles in Van Allen belt and radiation due to last year's high altitude nuclear explosions.

February 14th NASA launched the Syncom active communications satellite. However, contact was lost when the satellite was boosted from its temporary orbit of 22,300 miles into its proper orbit.

February 19th secret satellite launched by USAF aboard a Blue Scout booster from Pt. Arguello.

February 28th USAF destroyed a secret satellite (probably a discoverer) when it deviated from its course after take-off. It was launched aboard a thrust-augmented Thor from Vandenberg.

March 13th secret space probe launched by USAF aboard a Blue Scout booster from Pt. Arguello.

March 18th USAF launched a secret satellite (probably a Discoverer) from Vandenberg using a thrust-augmented Thor booster.

March 21st the Soviet Union launched Cosmos 13 to gain space data for future manned spaceflights.

March 30th NSAS launched the fourth Saturn I space booster from Cape Canaveral. The vehicle, with dummy upper stages, reached a height of 80 miles. The Saturn will be used for future manned orbital and lunar flights.

April 2nd. Lunar probe Lunik 4 launched by the Soviet Union. On the same day, NASA launched the Explorer 17th Satellite by a Delta booster from Cape Canaveral to provide data on atmospheric structure and spacecraft orbital characteristics.

April 15th The Soviet Union launched the Cosmos 15 satellite

April 26th two secret satellites launched by USAF - one from Vandenberg aboard a Thor-Agena booster (probably a Discoverer) and one from Pt. Arguello aboard a Blue Scout.

May 7th Major Gordon Cooper launched into orbit in a Mercury capsule by an Atlas booster in the MA-9 shot. He created a new American record of 22 orbits in 34 hours.

May 18th and 25th Soviet Union conducted a series of tests of their latest space booster in several 7,500 mile shots in the central Pacific

May 22nd Cosmos 17 launched by the Soviet Union

May 24th Cosmos 18 followed Cosmos 17 into orbit

June 11th Lt. Col. Valery Bykovsky launched in Vostok 5, achieving a new endurance record of 82 orbits and 119 hours.

June 12th USAF Atlas-Agena with secret payload exploded shortly after take-off from Pt. Arguello.

June 14th Lt. Valentina Tereshkova followed Bykovsky into orbit in Vostok 6, covering 49 orbits and 71 hours.

June 15th USAF Blue Scout launched from Pt. Arguello with a secret payload.

June 19th NASA launched the Tiroa 7 weather satellite from Cape Canaveral using a Delta booster, giving good pictures of cloud and good results from other experiments carried.

QUESTIONS & ANSWERS

1 Are people still sighting UFOs? I have not seen many reports lately.

C.B.Dunham, Newcastle-on-Tyne.

Reports of Unidentified Flying Objects are still reaching certain newspapers, but interest in the subject is less now than it was a few years ago. It might of course mean that the existence of these objects has been accepted as matter-of-fact.

2. I recently read a newspaper report in which it was stated that animal, fish and bird life were living against their instincts and dying prematurely. What is presumably the cause of this ?

G.H. Fielding, Seattle, Washington.

I expect you are referring to Bikini where a 20 megaton H-bomb was exploded 8 years ago. The answer of course here is that radiation is the hazard which has caused the mental faculties to be affected.

3. Why doesn't the editor publish a photograph of herself in 'Space Review' and give a few more details about her life in connection with 'outer space' work? G.H. Trigginnick, Hants

The editor has no photographs available at present for publication, but will hope to publish one at some later date. As to a few general details; I am young, sell books on astronomy and other scientific and philosophical subjects; am a member of the British Astronomical Association and Royal Astronomical Society - at other times I do temporary work for various aircraft scientific and engineering firms throughout the area.

4. If the temperature on Venus is 800°F and there is absence of free oxygen and water vapor as proved by Mariner II, how can one account for the phenomena of the Ashen Light and the appearance of polar ice caps by the use of colour filters?

C.W. Brown, Penzance,

We can either accept that Mariner II recorded the data correctly or that ground astronomers are disillusioned. It is as well to remember that astronomers have never been in agreement over the interpretation of observational data. Some radio astronomers assert that Venus is a very strong transmitter of radio waves thus proving that Venus either has a very hot surface or the presence of an intense band of radiation.

RECENT MONSTER STORIES

"I saw strangest sight!" Is Cadborosaurus, the often seen but never photographed sea serpent, back in Southern Vancouver Island waters after a prolonged absence?

Mrs. R.A. Stewart, 5308 Westholme Road, Prospect Lake, believes so. She is sure she saw 'Caddy' or one of his cousins last Sunday afternoon, near Gabriola Island. Mrs. Stewart in entering the 'I believe in Caddy' contest organised by Times Columnist Monte Roberts, writes in part: "I have been reading a lot about Caddy and this is the first time I ever thought there could be any truth in such an animal.

"Sunday after my husband, children and I went up to Gabriola Island to explore the beach and do some fishing. We went out fishing in a small rowboat on the Gulf side, off my parents' waterfront cottage.

"We caught a good-sized codfish and as my husband was untangling the hooks, I looked out at the glass-like calm waters.

"I honestly saw the strangest sight, a large brown-headed animal swimming a few feet away from our small boat. It had a huge head, but it was its horrible wide-open jaws which terrified me. But by the time I screamed to my husband to row quickly to the beach, the creature had vanished."

Mrs. Stewart who has boated in the area for 15 years is convinced that what she saw was not kelp, porpoise, blackfish, sea lion or any other 'normal' marine phenomena.

"I only wish some responsible persons would go over to Gabriola Island and row a few yards offshore on the Gulf side towards Loche Bay and see if they too, don't see what we saw."
(Victoria Daily Times, Friday March 1st, 1963.)

U.S. Planes seek 'Monster' sonora Calif (AP) Three separate monster hunts ended in failure last week following the return of two men from a flight over the rugged, forested ridges of the Sierra foothills.

Leonard Strand, a pilot and Alden Hoover, flying a chartered plane, said they saw a gorilla-like creature at least 10 feet tall from their craft..

They said they made three passes over him, taking pictures with black-and-white and colour film. On the third pass, the monster vanished. They said the black-and-white shots failed to show him. The colour film still is being processes.

The sceptical regard the yarn as another outbreak of the 'bigfoot' legend which has cropped up in California from time to time (Toronto Daily Stat Monday 4/3/63)

Monster 'Hissed' Campbell River - The second sighting of a mysterious 'sea monster' within a month was reported here Thursday.

Mrs. J.C.Durrant of Shelter Point said the creature she saw was about 25 feet long, looked like a dragon and made a hissing noise.

Three weeks ago, another sighting of a similar unknown of the sea was reported in the same general area.

Campbell River residents claim the monster is named Klamahtosaurus and was first seen by Indians 200 years ago.

Residents of Southern Vancouver Island are more inclined to believe it is Cadborosaurus wandering from his normal haunts. (Victoria Daily Times, Friday 29/3/63).

Suggest Egg Fresh 20,000,000 years ago. Utsunomiya, Japan (AP) A fossilised egg unearthed at a construction site is at least 20,000,000 years old, scientists estimated. No such find has ever been reported in Japan before.

The fossil is about the size of a hen's egg. Utsunomiya University geologists based their estimate of its age on the earth stratum where it was found. (The Owen Sound Sun Times, Tuesday 12/2/63).

CLIPS AND QUOTES

The following quotations have been sent to our publication through the courtesy of Gladys Fusaro of Huntington N.Y.

Moon called ideal base for exploring the planets ARGEONNE III May 4th (AP). A moon colony turning out spaceships in a shop powered by a solar mirror was envisioned today by a scientist at Argonne National Laboratory.

Another scientist saw in the future, mechanical robots able on command to operate and repair spaceships in flight.

Dr. Bernard P. Spinrad told a space symposium that the moon, because of its low gravity pull, was an ideal base for interplanetary flights.

"On the basis of techniques which in general we know" he said, "I believe that the larger scale exploration of the solar system will in fact be undertaken from a base on the moon."

Raymond G. Goertz, Director of Argonne's remote control engineering division, said that master-slave manipulators now used mainly to handle radio active materials had an excellent potential role in space. (New York Times. Sunday 5/5/1963)

Moon and Mars 1st Space Targets Salt Lake City (UPI)
An astronomer believes the Moon and the planet Mars are the two bodies in the solar system most likely to be reached by man.

Dr. Armand N. Spitz predicted during a lecture that man might reach the moon in this decade, but said it was unlikely. He said a landing on Mars could be made about 10 years after that. (Long Island Press N. Y. (5/5/63).

Mysterious Gas over L.A. Area A mysterious gas spread over 30 sq miles of Eastern Los Angeles, May 1st forcing evacuation of more than 14,000 school children and defying efforts of investigators to learn its source.

After hours of searching, fire department investigators remained baffled by the source of the gas odour.

During the search, 10 engine companies, involving at least 50 men were moved into the streets and replacement companies moved into their fire houses from other sections of the city.

The fire department alerted 25 schools and 15 of these were evacuated for periods ranging from 30 minutes to two hours

The Southern California Gas Company quickly checked its installations and assured the fire department it was not responsible. Its giant tanks were checked. No leaks were found. Pressure gauges were normal, another indication there were no leaks.

Furthermore, the company reported, it had received no complaints from residential areas of industrial gas users of a drop in pressure.

(Free Press Weekly 8/5/63)

A Fable for the Times. In the 'sealed box' experiment used in schools today a student is given a box which may be empty or contain a number of things. The student may shake, smell or weigh the box, but may not open it and is asked to infer something about its contents. Dr. Richard K. Toner, of

Princetown recalled this experiment at the annual convention of the National Science Teachers Association in Philadelphia. It reminded him, he said, of a black box that once fell from the sky onto a college campus and baffled all efforts of the college's scientific experts. A physicist measured the box and weighed it but found its density corresponded to nothing in any of his tables. He couldn't melt it and x-rays wouldn't penetrate it. A chemist managed to chip off a piece of the box but found it insoluble. Every laboratory test was made and all failed. Finally, a psychologist said he would like to try an experiment to the amusement of the physical scientists.

The psychologist drew up a chair next to the box, sat down and drew out a notebook and pencil. "Well now" he said, "what's your name?"

"Bruce," the box replied.

(The Insider's Newsletter, New York N.R. 13/5/63).

Cosmic Rays Hitting the Earth from Other Galaxies on Rise

Warsaw June 4th, 1963. Soviet explorations of space indicate that the intensity of the cosmic ray bombardment of the earth from other solar systems has doubled in the last five years.

At the same time, cosmic rays produced by the sun have been decreasing.

This was reported today by S.V. Vernov, a Soviet expert on cosmic rays, to the second session of the annual meeting of the Committee on Space Research (CSOPAR)

The meetings of COSPAF, a unit of the International Council of Scientific Unions, provide a forum for the exchange of information about space.

Mr. Vernov delivered a report to today's session of Soviet studies of cosmic rays - extremely high-energy particles that are shot from the sun and similar stars in other galaxies.

Since 1957 Mr. Vernov said, Soviet scientists have made more than 4,000 balloon flights specifically to gather data on the frequency and intensity of cosmic rays in the upper atmosphere. Information from unmanned space satellites has also been incorporated in the study.

According to the Soviet scientist, the increase in intensity

of cosmic rays from other galaxies is traceable to a decline in the sun's activity.

As a part of its regular 11-year cycle, the sun is now approaching a period of minimum activity. This will run from the beginning of 1964 into 1965.

As a result of this declining activity, the magnetic fields within the solar system are weaker and cosmic rays from outside can penetrate to the earth more easily. The reverse is true in periods of maximum solar activity.

Another Soviet scientist, Prof. Anatoly A. Blagonravov, reported that the lack of any solution to the problems of shielding space travellers from radiation still barred manned flights to the moon and other planets (Ref: New York Times, 5/6/63).

Bikini Eight Years After

A team of Italian film-makers reported recently on a trip they made to Bikini to record animal life eight years after the first hydrogen bomb was set off there with a force of 20 million tons of TNT

They saw great crowds of sea birds nesting and flying about and huge sea turtles moving across the beaches as if they were none the worse for the big blast.

But on looking closer, the movie men found that the birds were nesting on piles of eggs accumulated over the years.

Either the birds had been made sterile or the eggs had been killed, by the huge dose of the fallout.

The centre of the atoll was filled with dead and dying sea turtles. These turtles, their instincts scrambled by radiation while still in the egg, had laid eggs of their own and then plodded into the sunbaked interior, instead of doing what they usually do, which is to swim back into the water where the male awaits them.

Pacific tree-climbing fish, which wriggle up trees in search of insects and then return immediately to the sea, were staying out of the water too long and dying in the trees. Apparently their instincts too, had been destroyed by the radio activity.

Eventually healthy life will return to the atoll, but the animals which litter the beaches are mute remnants of the dirtiest H-bomb explosion recorded.

"The survivors will be the real tragedy in a nuclear war," one of the Italian cameramen commented after seeing Bikini. (The Recorder & Times 1/10/62 and Gene Duplantier.)

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ASTRONOMICAL HIGHLIGHTS

Studies Reveal some Stars Born 10 billion years ago
Pasadena, California (AP) A study of the three oldest stars yet found shows there must have been other stars in existence when these giant antiques were born almost 10,000,000,000 years ago.

Analysis of the light from these stars, announced Saturday by the California Institute of Technology, indicate they are nearly twice the age of the sun, 20 to 30 times in diameter and 500 to 1000 light years away.

Although they are the oldest objects yet studied, the institute said "there are traces in their atmospheres of heavier chemical elements made by now dead stars that were born earlier. The institute said the three must have been born during the first billion years, perhaps even the first 100 million years after the first stars of our Milky Way galaxy were formed.

The study, which the institute said gives astronomers "a look back in time to the composition of the galaxy when it and indeed the Universe itself were very young," was made with the 200 inch telescope on Mount Wilson, both in California.

Special photographs were taken which separate a star's light into the wavelength patterns radiated by its atoms. Since different atoms have different radiations, this technique tells a star's chemical composition

(Acknowledgement G. Duplantier).

Frost on Saturn's Rings is reported by Russian
Washington (Science Service) The rings surrounding Saturn are coated with small frost crystals according to a Russian

astronomer.

Dr. V. I. Moroz of the State Astronomical Institute, Moscow has reported that the rings consist of chunks of cosmic material ranging from four inches to more than three feet in diameter.

Using the powerful fifty-inch reflecting telescope at the Crimean Astrophysical Observatory and an infra-red spectrometer (an instrument for measuring wavelengths), Dr. Moroz studied the spectrum of Saturn's rings. They are covered with frost crystals, he reports.

Previous studies in the U.S.A. have indicated the possibility of frost (Ack Gene Duplantier).

A 'Pancake Ring' round the Earth?

Moscow (UPI) The official news agency Tass said yesterday, Soviet astronomer Pyotr Shcheglov believes the earth has a pancake-shaped ring around it like the planet Saturn.

The agency said Shcheglov discovered a "flat cloud of hydrogen shaped like a pancake round the earth" at an altitude of 10,000 kilometer (6,200 miles.)"

"It resembles a ring of Saturn in shape," Tass said.

The agency said a spaceman on the moon would be able to see the cloud using a special instrument. The cloud is about 1,000 times denser than 'interplanetary gas,' the agency said.

Tass said Shcheglov made the discovery with new highly sensitive instruments. The 'pancake ring' is apparently stationary it said. (Long Island Press 4/4/63 Gladys Fusaro).

Space Invader Grashes Earth at New Mexico

Washington (AP) A tiny super-powered invader from distant space crashed into the earth's atmosphere last month setting off a cosmic ray shower over New Mexico.

The invader was a mere nucleus of an atom but physicists say its energy was so great it must have come from some distant galaxy, outside our Milky Way. The shower was detected by John Linsley of the Laboratory for Nuclear Science, Massachusetts Institute of Technology.

When the invader crashed into the earth's air blanket, it struck the nucleus of an atom of the air and the resulting atomic debris grew by a sort of chain reaction into a shower of high-speed atomic particles. The cosmic ray shower covered an

area of several square miles. The bombardment lasted only an instant but long enough to be recorded.

Earth scientists accelerate protons in huge atom smashing devices. The new Brookhaven National Laboratory synchrotron can accelerate protons to 30,000,000,000 electron volts over its half-mile track. But the atomic nucleus from outer space, probably the nucleus of a hydrogen atom, had 3,000,000,000 times as much energy.

(The Owen Sound Sun-Times 2/3/63)

Red Spot on Jupiter still Prominent

An observation from Jose Olivarez of Mission, Texas, shows that Jupiter's Red Spot is much more prominent than has been anticipated by members of the BAA Jupiter Section. Disturbances in the cloud layers of this planet have been quite outstanding for the past months, but recently this showed signs of diminishing. The Red Spot is known to be a permanent feature of Jupiter, but not actually attached to the planet. It is possible that Jupiter consists mainly of gases and that the Red Spot makes its appearance when rising to the surface at unpredictable periods of time. (Credit Alan W. Heath FRAS).

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MISCELLANEOUS NEWS BRIEFS

Radar Observations of Venus during 1961 combined with doppler spectral measurements indicate that the rotational period of Venus is slow or possibly retrograde. This is apparently confirmed by the Mariner II space probe (Astronomical Journal 68 15,1963.)

The National Aeronautics and Space Administration has selected the Ariadaeus cleft and Copernicus as lunar exploration areas. (J.P.D.A.S. 12,1963) NASA is preparing a chart of radiation around the world which will provide a single source for information on the radiation environment and its variation with time (J.P.D.A.S. 12,1963).

Scientists of the U.S.A. plan to put monkeys in space for 30 days at a time. Biologists will then study the effect on their bodies due to space radiation bombardments (Daily Mirror 11.3.1963 and Altair Vol.5 No. 29).

Sir Bernard Lovell, Director of Jodrell Bank Radio Observatory has discovered that a certain type of star emits radio waves under conditions in the same way as the Sun. Sir Bernard said: "as in the case of the Sun these certain types of stars emit radio waves when their atmospheres are violently disturbed by flares, although in the case of the stars, the effects of the flares seem to be more violent than in the case of the Sun." (Manchester Guardian 20.4.1963)

Russia will give up Moon face" said Sir Bernard Lovell when he returned from his trip to the Soviet Union. It is not believed to be scientifically desirable among Soviet scientists and a conference will be called between Russia, Britain and the USA, to discuss the risks involved. The main problems are (a) the risk of a solar flare hitting a moon explorer after he had disembarked, (b) the problem of getting a man back without enough equipment to launch a space vehicle (Daily Mail 17.7.1963).

Scientist Fears Life from Space Dr. Solomon W. Golomb of California Institute of Technology stated that there was a danger of space vehicles returning to earth from other planets carrying microscopic organisms which could destroy life on earth. Dr. Golomb spoke at the ninth annual session of the American Astronautical Society in which Dr. Fred L. Whipple,

vice president of the society voiced the grim opinion that a meteorite colliding with the earth could trigger a nuclear war (Los Angeles U.P.I.)

First Radar Contact with Mars Achieved. California Institute of Technology scientists say they have contacted Mars by radar by transmitting on a 25-billion-watt signal. The return signal was one-trillionth of a watt, but this was enough to indicate that Mars had both rough and smooth surfaces, similar to those of the earth and moon. (The Vancouver Sun 22.2.63)

An Object from Outer Space Lands in Wiltshire A farmer awoke one morning to find an unidentified crater in his field. Grass and potatoes in the area had been badly burned. A team of investigators from London believed it was caused by an unidentified space object (Daily Mail 20.7.1963)

U.S. Space Bird to Orbit next Year. The U.S. will try to orbit a huge space bird late next year. Its wings spanning 96 feet will be used to record the impact of meteorites (Long Island Press N.T. 6.2.1963)

Whistlers, Hiss, Chorus, Help our Radio Scientists. Dr. M.G. Morgan of Dartmouth College and Dr. Robert A. Helliwell of Stanford University Radio Science Laboratory believe the mysterious noises in the Earth's upper atmosphere may provide an answer to auroral displays, solar activity and nuclear explosions. Study of this radio phenomena may fill the gap in understanding the earth-sun relationship. (Long Island Press N.Y. 3.5.1963)

The Smithsonian Institute recently set up an elaborate system of cameras and a spectroscope near the town of Maco in North Carolina in order to find the origin of a mysterious flickering light that has been seen in the area for generations. When approached too closely, the light disappears.

Soviet scientists claim to have brought two 5,000 year old salamanders back to life, one lived 3 weeks while the other lived practically through the summer. One scientist. Prof. Lev. Losino-Losinsky of Leningrad Institute of Cytology later denied the story as 'pure fantasy' (Credit. Gene Duplantier)

The Loch Ness monster is believed to exist according to

the results of a scientist who visited the area last February. British naturalist, Peter Scott thought the monster was a giant fish, but **thought** it was 'just possible' that it could be some type of newt or salamander on a big scale (Reuters).

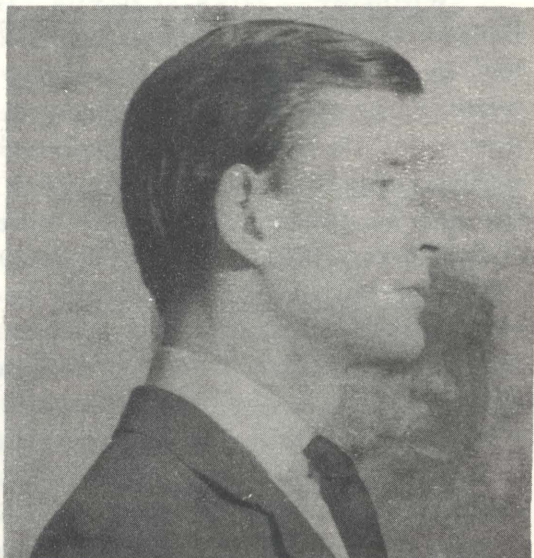
Telstar Shows Nature Clears A-rays from Space

The Telstar satellite, which found high intensity radiations from high altitude nuclear explosions launched by both the U.S.A. and the Soviet Union, also indicated that the radiation nearly filled the gap between the inner and outer Van Allen belts. This was reported by Walter L. Brown of Bell Telephone Laboratories. Telstar also discovered that some unknown force quickly cleared away the artificially created electrons by as much as 50% a day (New York Associated Press).

PANORAMA AND LATE NEWS

ONE WORLD - ONE TRUTH by JOHAN H. QUANJER is the title of a new book written by Johan H. Quanjor. This is going to be a privately published work and will go on sale to the public by early October 1963. Spiritual philosophy and the many mysteries of life itself are discussed with authority, yet it is written in a style easily understandable and captivates immediate interest. In my opinion, it will also provoke curiosity among all thinking people.

The doctrines propagated within its pages are somewhat theosophical in nature - which are in my view about the only spiritual teachings in which science is almost in agreement



JOHAN H. QUANJER

The chapters include, Life without Death, Psyche, The Lifeline, Awakening, Cause & Effect, Companionship, The Underworld, Second Birth, God, Jesus/Man, Government.

Now here are a few personal details about the author: He is young, born in the tropics; but the best part of his life has been spent in various foreign lands including Europe, the U.S.A. and Canada. He is very well educated and can speak at least four languages fluently. Mr. Quanjer is not a member of any occult, spiritualist or religious demonination, but has investigated many groups and found remnants of truth from each one. His aim in life is dedicated towards a better world and to contribute greater understanding between all races of people. Mr. Quanjer's other interests include; arts and crafts, classical music, industrial design, sociology, etc. He has lived in London for the past few years and works in the showrooms of a well-known fabric and wallpaper company. One World-One Truth is available at 16/- post free (\$3.00) and is obtainable from the editorial address on a pre-publication basis.

CAPELLA is the name of a new journal issued by the Brighton Group of the Junior Astronomical Society. The editor is Jennifer North, formerly of the Croydon branch journal, ALTAIR. Celia Page is the Chairman of the group, and meetings are held in the area. Write for particulars to 89 Brighton Road, Newhaven, Sussex. Subs for CAPELLA are payable to Q.H.Gee Esq., 15 Fernhurst Crescent, Brighton, Sussex. The rates are 2/6d per annum, issued 4 times a year. Dollar rate 50¢.

The Preston & District Astronomical Society publishes a quarterly journal and holds monthly meetings. Full details and membership from Mr. C. Lynch 51 Bispham Road, Carleton, Poulton-le-Fylde, Lancs.

The magazine ALTAIR of the Croydon J.A.S. is now edited by Ken Stocker and Peggy Mence. Six issues are obtainable for 4/6d (uncrossed postal order) to be sent to Mr. Stocker FRAS 12 Oxford Road, Wallington, Surrey.

SCOPE magazine is now issued as a journal of the Federation of University Astronomical Societies. It was formerly the journal of the University of London Astronomical Society. The editor is Miss R. E. M. Gasson of University College, London and the Secretary is D. Purchase, Sydney Sussex College, Cambridge. The articles included are suitable for both professional and amateur astronomers. SCOPE is issued on an irregular basis and obtainable for 2/- a copy post free.

THE INTERNATIONAL PARANORMAL BULLETIN includes news on all space age subjects. Subscription is, 4 issues \$1.00 or 7/6d from A. F. Van Wieringen Box 1524, Amsterdam, Holland.

A Metallic object has been unearthed from farmer Roy Blanchard's potato field in Charlton, Wiltshire. It has powerful magnetic force which causes steel instruments to go haywire. The object was dug up by a bomb disposal squad, who were called in on a job to fill an unidentified crater which appeared suddenly a few days ago.

Patrick Moore, the TV astronomer, stated that the metal object might be a meteorite, but Mr. Robert Randall an astrophysicist from Woomera rocket range said that a spacecraft from Uranus was responsible for the occurrence. The mystery of the crater is to be brought before the House of Commons today (Ref Daily Mail 25.7.1963 and BBC News Service).